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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,078	04/12/2005	Kenneth M. Gainey	080590	2571
23696 7590 08/21/2009 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
PHU, SANH D				
ART UNIT		PAPER NUMBER		
2618				
NOTIFICATION DATE		DELIVERY MODE		
08/21/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/531,078

**Applicant(s)**

GAINEY ET AL.

**Examiner**

SANH D. PHU

**Art Unit**

2618

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-13, 15-17, 22-28, 30-32, 34-35, 40-48, 50 is/are rejected.
- 7) ☒ Claim(s) 10, 14, 18-21, 29, 33, 36-38 and 49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-849)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/25/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office Action is responsive to the Amendment/Response filed on 05/22/09. Accordingly, claims 1-50 are currently pending.

#### ***Claim Rejections - 35 USC § 112***

2. Claim 50 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 50 recites the limitation "A computer-readable medium comprising instructions stored thereon, which, when executed by a machine, cause the machine to perform operations for a frequency translating repeater in a time division duplexing (TDD) radio protocol system, the instructions comprising: instructions to detect if a signal is present on one of two frequency channels associated with the frequency translating repeater; instructions to change a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and instructions to add a delay to the signal to compensate for a signal detection interval and a transmitter configuration interval".

Said limitation is not disclosed in the specification of the instant application. No such "computer-readable medium", "instructions" and "machine" are found in the specification of the instant application.

#### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 22, 42 and 50 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 10/516,327.

-Regarding claim 22, claims 1-36 of copending Application No. 10/516,327 teaches a method for frequency translation in a frequency translating repeater, the method (see claims 1, 8 and 9 of Application No. 10/516,327) comprising:

procedure (comprising "signal detector") of detecting if a signal is present on one of two frequency channels associated with the frequency translating repeater;

procedure (comprising "frequency converter") of changing a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and

procedure (comprising "delay circuit") of adding a delay to the signal, wherein in light of the specification, page 10, of Application No. 10/516,327), the delay has a sufficient time delay to compensate for processing/transmitting time of elements

(comprising a detector, filters, ADC and so on) of a detection and control unit, (said delay considered here equivalent with the limitation " a delay to the signal to equivalent to a signal detection interval and a transmitter configuration interval").

-Regarding claim 42, claims 1-36 of copending Application No. 10/516,327 teaches a frequency translating repeater, the repeater (see claims 1, 8 and 9 of Application No. 10/516,327) comprising:

means (comprising "signal detector") of detecting if a signal is present on one of two frequency channels associated with the frequency translating repeater;

means (comprising "frequency converter") of changing a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and

means (comprising "delay circuit") of adding a delay to the signal, wherein in light of the specification, page 10, of Application No. 10/516,327), the delay has a sufficient time delay to compensate for processing/transmitting time of elements (comprising a detector, filters, ADC and so on) of a detection and control unit, (said delay considered here equivalent with the limitation " a delay to the signal to equivalent to a signal detection interval and a transmitter configuration interval").

-Regarding claim 50, as similarly applied to claim 22 set forth above and herein incorporated, claims 1-36 of copending Application No. 10/516,327 teaches a computer-readable medium "computer-readable medium" configurable to comprise instructions "instructions" stored thereon, which, when executed by a machine "machine", cause the

machine to perform operations for a frequency translating repeater in a time division duplexing (TDD) radio protocol system, the instructions comprising: instructions to detect if a signal is present on one of two frequency channels associated with the frequency translating repeater; instructions to change a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and instructions to add a delay to the signal to compensate for a signal detection interval and a transmitter configuration interval, (see claims 1, 8, 9 and 35 of Application No. 10/516,327).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-9, 11-13, 15-17, 22-28, 30-32, 34, 35 and 40-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Galney et al (2004/0157551), newly-cited

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

-Regarding claim 1, Galney et al discloses a frequency translating repeater, the frequency translating repeater (see figure 3) comprising:

a detector circuit (included in (DETECTION AND CONTROL UNIT) configured to detect if a signal is present on one of two frequency channels associated with the frequency translating repeater (see [0037, 0042, 0044]);

a frequency translator (320, 321, 350) configured to change a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels (see [0039, 0048-0050];

a gain control circuit (MICROPROCESSOR, 330) configured to adjust a gain of the signal (see [0036, 0052]); and

a delay circuit (360, 361) configured to add a delay to the signal, wherein the delay compensates for transmitting/detecting/gain adjusting of the DETECTION AND CONTROL UNIT), (said delay considered here equivalent with the limitation "a delay to the signal to compensate for a signal detection interval, a gain adjustment interval and a transmitter configuration interval"), (see [0037, 0042, 0057]).

-Regarding claim 2, Galney et al teaches that the delay circuit includes an analog delay (360, 361) which inherently delay its input signal by holding/storing the input

signal before retrieving it, (the analog delay considered here equivalent with the limitation "analog storage device") (see [0041, 0042, 0057]).

-Regarding claim 3, Galney et al teaches that the delay circuit includes at least one filter (360, 361) , (considered here equivalent with the limitation "surface acoustic wave filter", configured for one or more of: analog signal storage and channel selection (see [0041, 0042, 0057]).

-Regarding claim 4, Galney et al teaches that the detector circuit includes a processor (MICROPROCESSOR) (see figure 3).

-Regarding claim 5, Galney et al teaches that the detector circuit further includes an analog detection circuit (370, 371) (see figure 3).

-Regarding claim 6, Galney et al teaches that the gain control circuit has one of a gain value and an attenuation value associated therewith (see [0052]).

-Regarding claim 7, Galney et al teaches that the detector is further configured to detect a received signal strength, e.g., "peak", "signal strength indication", of the signal, indicated by output voltage of (370,371), and the gain control circuit is configured to use the received signal strength of the signal to adjust the gain of the signal, (see [0044, 0047, 0052]).

-Regarding claim 8, Galney et al teaches that the gain control circuit is further configured to control the gain value or the attenuation value or both based on one or

more predetermined criteria to achieve a specific signal transmit output power, (see [0052]).

-Regarding claim 9, Galney et al teaches that the one or more predetermined criteria is for modifying the specific signal transmit output power and includes at least one criterion selected from the group consisting of: frequency separation between a receive frequency and a transmit frequency, a regulatory rule, a temperature, a received power level, a transmit power level, and a detected interference level, (see [0052]).

-Regarding claim 11, as similarly applied to claims 1-9 set forth above and herein incorporated, Galney et al teaches a frequency translating repeater, the frequency translating repeater (see figure 3) comprising:

a detector circuit (included in (DETECTION AND CONTROL UNIT)) configured to detect if a signal is present on one of two frequency channels associated with the frequency translating repeater and to detect a received detected signal power of the signal;

a frequency translator (320, 321, 350) configured to change a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels;

a delay circuit (360, 361) configured to add a delay to the signal to compensate for a signal detection interval and a transmitter configuration interval; and

a gain control circuit (MICROPROCESSOR, 330) configured to adjust a gain value of the signal at least in part based on the received detected signal power detected by the detector circuit.

-Regarding claim 12, Galney et al teaches that the gain control circuit is further configured to adjust the gain value based at least in part on criteria including which of the one of the two frequency channels the signal is received on, and which of the other of the two frequency channels is changed to (see figure 3, [0052]).

-Regarding claim 13, Galney et al teaches that the criteria further includes regulatory rule for transmission (see [0052]).

-Regarding claim 15, as similarly applied to claims 1-9, 11-13 set forth above and herein incorporated, Galney et al teaches a frequency translating repeater, the frequency translating repeater (see figure 3) comprising:

a detector circuit (included in (DETECTION AND CONTROL UNIT)) configured to detect if a signal is present on one of two frequency channels associated with the frequency translating repeater;

a frequency converter (320, 321) configured to convert the signal from a radio frequency(RF) signal to an intermediate frequency (IF) signal;

a frequency translator (350) configured to change a frequency channel associated with the 1F

signal from the one of the two frequency channels to an other of the two frequency channels;

a delay circuit (360, 361) configured to add a delay to the IF signal to compensate for a signal detection interval and a transmitter configuration interval; and

a gain control (MICROPROCESSOR, 330) circuit configured to adjust a gain value of the IF signal.

-Claim 16 is rejected with similar reasons set forth for claim 7.

-Regarding claim 17, Galney et al teaches that the repeater (see figure 3) further comprises:

an antenna (300) for receiving the signal present on the one of two frequency channels;

a RF splitter (315) coupled to the antenna, the RF splitter for splitting the signal onto a first path and a second path; and

first and second IF splitters (323, 324) disposed on the first and second paths, respectively, the first IF splitter for splitting the first path into a first IF signal path and a first detection path, the second IF splitter for splitting the second path into a second IF signal path and a second detection path,

wherein the detector circuit (comprising (370, 371)) is located on the first detection path and the second detection path,

wherein the delay circuit (360, 361) is located on the first IF signal path and the second IF signal path,

wherein the gain control circuit (comprising (MICROPROCESSOR)) is located on the first detection path and the second detection path.

-Regarding claim 22, as similarly applied to claims 1-9, 11-13, 15, 17 set forth above and herein incorporated, Galney et al teaches a method for frequency translation in a frequency translating repeater, the method (see figure 3) comprising:

procedure (comprising (DETECTION AND COTNROL UNIT) of detecting if a signal is present on one of two frequency channels associated with the frequency translating repeater;

procedure (320, 321, 350) of changing a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and

procedure (360, 361) of adding a delay to the signal to equivalent to a signal detection interval and a transmitter configuration interval.

-Claim 23 is rejected with similar reasons set forth for claim 2.

-Claim 24 is rejected with similar reasons set forth for claim 3.

-Claim 25 is rejected with similar reasons set forth for claim 5.

-Claim 26 is rejected with similar reasons set forth for claim 17.

-Claim 27 is rejected with similar reasons set forth for claim 8.

-Claim 28 is rejected with similar reasons set forth for claim 9.

-Regarding claim 30, as similarly applied to claims 1-9, 11-13, 15, 17 set forth above and herein incorporated, Galney et al teaches a method for frequency translation in a frequency translating repeater, the method (see figure 3) comprising:

procedure (comprising (DETECTION AND COTNROL UNIT) of detecting if a signal is present on one of two frequency channels associated with the frequency translating repeater;

procedure (320, 321, 350) of changing a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels;

procedure (360, 361) of adding a delay to the signal to compensate for a signal detection interval and a transmitter configuration interval; and

procedure (MICROPROCESSOR, 330) of adjusting a gain value of the signal in part based on a detected receive power level of the signal.

-Regarding claim 31, Galney et al teaches that the adjusting the gain value is based on a criteria including which of the one of the two frequency channels the signal

is received on, and which of the other of the two frequency channels is changed to (see (DETECTION AND CONTROL UNIT) of figure 3).

-Claim 32 is rejected with similar reasons set forth for claim 9.

-Regarding claim 34, as similarly applied to claims 1-9, 11-13, 15, 17, 30-32 set forth above and herein incorporated, Galney et al teaches a method for frequency translation in a frequency translating repeater, the method (see figure 3) comprising:

procedure (comprising (DETECTION AND CONTROL UNIT) of detecting if a signal is present on one of two frequency channels associated with the frequency translating repeater and, if so, a receive power level of the signal;

procedure of (320, 321) of converting the signal from a radio frequency (RF) signal to an intermediate frequency (IF) signal;

procedure (350) of changing a frequency channel associated with the IF signal from the one of the two frequency channels to an other of the two frequency channels;

procedure (360, 361) of adding a delay to the IF signal to compensate for a signal detection interval and a transmitter configuration interval; and

procedure (MICROPROCESSOR, 330) of adjusting a gain value of the IF signal based at least in part on the detected receive power level of the signal.

-Regarding claim 35, Galney et al teaches that the detecting and the adjusting are performed, via (MICROPROCESSOR), respectively on a first and a second signal path (see figure 3).

-Claim 40 is rejected with similar reasons set forth for claim 26.

-Claim 41 is rejected with similar reasons set forth for claim 26.

-Regarding claim 42, as similarly applied to claims 1-9, 11-13, 15, 17, 30-32 set forth above and herein incorporated, Galney et al teaches a frequency translating repeater, the repeater (see figure 3) comprising:

means (comprising (DETECTION AND COTNROL UNIT) of detecting if a signal is present on one of two frequency channels associated with the frequency translating repeater;

means (320, 321, 350) of changing a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and

means (360, 361) of adding a delay to the signal to equivalent to a signal detection interval and a transmitter configuration interval.

-Claim 43 is rejected with similar reasons set forth for claim 2.

-Claim 44 is rejected with similar reasons set forth for claim 3.

Claim 45 is rejected with similar reasons set forth for claim 5.

-Claim 46 is rejected with similar reasons set forth for claim 26.

-Claim 47 is rejected with similar reasons set forth for claim 27.

-Claim 48 is rejected with similar reasons set forth for claim 28.

***Allowable Subject Matter***

7. Claim 39 is allowed.

8. Claims 10, 14, 18-21, 29, 33, 36-38 and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

9. Applicant's arguments filed 05/22/09 have been fully considered.

As results, claims 10, 14, 18-21, 29, 33, 36-39 and 49 are indicated allowable set forth above, and the previous 102(e) claims rejections have been withdrawn.

Claims 1-9, 11-13, 15-17, 22-28, 30-32, 34, 35, 40-48 and 50 are, however, deemed not allowable because reasons set forth above in this Office Action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANH D. PHU whose telephone number is (571)272-7857. The examiner can normally be reached on M-Fr from 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sanh D Phu/  
Primary Examiner  
Art Unit 2618